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| 09/609,046      | 06/30/2000  | D'Arcy M. Tyrrell III | 062986.0186         | 2977             |

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| EXAMINER |
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CHOUDHARY, ANITA

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| ART UNIT | PAPER NUMBER |
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2153

DATE MAILED: 05/05/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/609,046

Applicant(s)

TYRRELL ET AL.

Examiner

Anita Choudhary

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 January 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

The amendment filed on January 6, 2004 under 37 CFR 1.312 has been entered. Claims 1, 3, 4, 8, 14, 16, 21, and 26 have been amended and are presented for further examination.

Claims 1-29 are presented.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 8, 14, and 21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1, 8, 14, and 21 use the limitations "first subset" and "second subset". These limitations were not found to be described in specification. Examiner request Applicant to point out where in the specification "first subset" and "second subset" are described. For purposes of this action, Examiner has interpreted these limitations to be implying a job (set)

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divided into portions (subsets), wherein each portion is handled by respective remote servers and not by any other server.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo et al. (US 5,721,883) in view of Hersch et al. (US 5,737,549).

Katsuo shows a method for implementing parallel image processing by dividing a pictorial image into smaller areas (fig. 6) for image processing by respective arithmetic processors (3). In referring to claim 1, Katsuo shows:

- Receiving from a client (host terminal 10) a render job (picture signal) having an associated job profile (config. file col. 6 lines 40-46) and a plurality of frames (small areas of picture) (col. 4 lines 5-15).
- Distributing via communications medium (data bus 7) a first subset (first portion of divided picture) but not a second subset (second portion of divided picture) of the plurality of frames (portions of picture fig. 6) of the render job to a first one of a plurality of image processors (arithmetic processors 3) and the second subset but not the first subset of the plurality of frames of the render job to a second of the plurality of rendering services based at least in part on the job profile (SUB2), the first and second subsets (first and second portion of

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divided picture) comprising at least first and second frames (first and second portions of picture, fig. 6 item 8) respectively, the first and second frames being different and not included within the second and first subsets, respectively (col. 5 lines 24-33).

- Rendering the first and second frames (fig. 6 item 8) concurrently (in parallel) at the first and second imaging processors (arithmetic processors 3) (col. 10 lines 20-24 fig. 5 S25); and
- Forwarding the rendered first and second frames to a network storage system for retrieval by the client (input/output sections, fig. 1 item 5).

Although Katsuo shows substantial features of the claimed invention, Katsuo does not shows plurality of render servers. Nonetheless this feature is well known in the art, and would have been an obvious modification to the system disclosed by Katsuo, as evidenced by Hersch.

In an analogous art, Hersch shows a method for parallel data storage and processing, wherein images are segmented into extents to be processed and stored at a plurality of servers (24) (col. 6 lines 6-28).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system shown by Katsuo to employ the features shown by Hersch in order to implement parallel image processing over a network (LAN) system (see col. 3 lines 1-5).

In referring to claim 2, Hersch shows a method for receiving the render job from a computer remote from the plurality of render servers (col. 6 lines 6-10).

In referring to claim 3, Hersch shows distributing the first and second subsets (extents) comprises distributing the first and second subsets by a scheduler (operation master process 26),

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the scheduler operable to determine which of the plurality of render servers (24) are capable of rendering frames within the first and second subsets (col. 8 lines 10-23, col. 8 lines 43-53).

In referring to claim 4, Hersch shows a scheduler (26) is operable to determine which of the plurality of render server (24) are capable of rendering frames within the first and second subsets by accessing a database (interface library 22) storing the capabilities of each of the plurality of render servers (col. 8 lines 43-53).

In referring to claim 5, 9, and 17, Hersch shows a capabilities database (22) which stores the type of rendering package (process) associated with each of the plurality of render servers (col. 8 lines 54- col. 9 lines 25).

In referring to claim 6, 10, and 18, Hersch shows capabilities database storing a processing status for each of the plurality of the render servers (col. 9 lines 27-39).

In referring to claim 7, Hersch shows transmitting the rendered first and second frames to the client (col. 9 lines 9-10).

In referring to claim 8, Katsuo shows:

- Rendering a render job (picture signal) having an associated job profile (config. file col. 6 lines 40-46) and a plurality of frames (small areas of picture) (col. 4 lines 5-15).
- Distributing via communications medium (data bus 7) a first subset (first portion of divided picture) but not a second subset (second portion of divided picture) of the plurality of frames (portions of picture fig. 6) of the render job to a first one of a plurality of image processors (arithmetic processors 3) and the second subset but not the first subset of the plurality of frames of the render job to a second of the plurality of rendering services based at least in part on comparison of the job profile and the resource information (table, SUB2), the first

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and second subsets (first and second portion of divided picture) comprising at least first and second frames (first and second portions of picture, fig. 6 item 8) respectively, the first and second frames being different and not included within the second and first subsets, respectively (col. 5 lines 24-33).

Although Katsuo shows substantial features of the claimed invention, Katsuo does not show plurality of render servers, a resource database or schedule server. Nonetheless these features are well known in the art, and would have been an obvious modification to the system disclosed by Hersch.

In an analogous art, Hersch shows a method for parallel data storage and processing, wherein images are segmented into extents to be processed and stored at a plurality of servers (24) (col. 6 lines 6-28). Hersch shows:

- A plurality of render servers (24) operable to render a render job having an associated job profile and a plurality of frames (extents) (fig. 2).
- A resource database (interface library, 22) comprising resource information regarding the plurality of render servers; and
- A Schedule server (interface processor, 28 and server interface process 21) coupled to the render server (24) via communications medium and operable to distribute render frames (col. 8 lines 44-53).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system shown by Katsuo to employ the features shown by Hersch in order to implement parallel image processing over a network (LAN) system (see col. 3 lines 1-5).

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In referring to claim 11 and 19, Hersch shows schedule server (28) operable to determine whether a particular one of the render servers is capable of rendering a particular render job (col. 8 lines 43-53).

In referring to claim 12 and 20, Hersch shows a system wherein the resource database (22) further comprises resource information regarding a plurality of render hosts associated with respective ones of the render servers (col. 7 line 54- col. 9 line 10).

In referring to claim 13, Katsuo shows resource information (in data flow control section 2) comprises hardware configurations information (number of processors) regarding the render hosts (col. 4 lines 34-59).

In referring to claim 14, Katsuo shows:

Distributing via communications medium (data bus 7) a first subset (first portion of divided picture) but not a second subset (second portion of divided picture) of the plurality of frames (portions of picture fig. 6) of the render job to a first one of a plurality of image processors (arithmetic processors 3) and the second subset but not the first subset of the plurality of frames of the render job to a second of the plurality of rendering services based at least in part on the job profile (SUB2), the first and second subsets (first and second portion of divided picture) comprising at least first and second frames (first and second portions of picture, fig. 6 item 8) respectively, the first and second frames being different and not included within the second and first subsets, respectively (col. 5 lines 24-33).

Although Katsuo shows substantial features of the claimed invention, Katsuo does not show plurality of render servers and at least one remote rendering system. Nonetheless these



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features are well known in the art, and would have been an obvious modification to the system disclosed by Katsuo as evidenced by Hersch.

In an analogous art Hersch shows:

- A local rendering system operable to receive and render a render job having a plurality of frames (col. 1 lines 50-57); and
- At least one remote rendering system comprising a plurality of remote render servers (col. 6 lines 6-10).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system shown by Katsuo to employ the features shown by Hersch in order to implement parallel image processing over a network (LAN) system (see col. 3 lines 1-5).

In referring to claim 15 and 16, Hersch shows:

- A plurality of render servers (24) operable to render a render job having an associated job profile and a plurality of frames (extents) (fig. 2).
- A resource database (interface library, 22) comprising resource information regarding the plurality of render servers; and
- A Schedule server (interface processor, 28 and server interface process 21) coupled to the render server (24) via communications medium and operable to distribute render job to one or more of a plurality (first and second render servers, 26) of render servers based on a comparison of the job profile and resource information (col. 8 lines 44-col. 9 lines 17).

Claims 21-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo in view of Austin et al (US 5,761,396).

Katsuo shows a method for implementing parallel image processing by dividing a pictorial image into smaller areas (fig. 6) for image processing by respective arithmetic processors (3).

- Receiving from a client (host terminal 10) a render job (picture signal) having an associated job profile (config. file col. 6 lines 40-46) and a plurality of frames (small areas of picture) (col. 4 lines 5-15).
- Distributing via communications medium (data bus 7) a first subset (first portion of divided picture) but not a second subset (second portion of divided picture) of the plurality of frames (portions of picture fig. 6) of the render job to a first one of a plurality of image processors (arithmetic processors 3) and the second subset but not the first subset of the plurality of frames of the render job to a second of the plurality of rendering services based at least in part on the job profile (SUB2), the first and second subsets (first and second portion of divided picture) comprising at least first and second frames (first and second portions of picture, fig. 6 item 8) respectively, the first and second frames being different and not included within the second and first subsets, respectively (col. 5 lines 24-33).
- Rendering the first and second frames (fig. 6 item 8) concurrently (in parallel) at the first and second imaging processors (arithmetic processors 3) (col. 10 lines 20-24 fig. 5 S25).

Although Katsuo shows substantial features of the claimed invention, Katsuo does not show a system for transferring render job from a first rendering site to a second rendering site.

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Nonetheless this feature is well known in the art, and would have been an obvious modification to the system disclosed by Katsuo as evidenced by Austin.

In an analogous art, Austin shows a system for processing a distribution job in a document processing system. A document processing system consists of a first and second virtual service (VS1, VS2, ... fig. 13) used to store and process first and second jobs of an image data. The virtual services are implemented as software or hardware or a combination of the two (col. 16 lines 50-53). Austin shows transferring of jobs to a remote rendering system controlled by a remote document manager (fig. 15), responsible for distributing first and second frames to remote first and second virtual services, similar to the illustration of the document manager shown in fig. 13. The remote document manager is coupled to an identical structure to that shown in fig. 13. The system offers remote document processing relative to the document processing system shown in fig. 13 (see col. 17 lines 56-61).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system shown by Katsuo to employ the features shown by Austin in order to dynamically re-route or out source rendering in case of failure or over load.

In referring to claim 22-24 and 29, Austin shows that completed processing is transmitted to client, or transmitted from first render site to second render site, or stored in location accessible by client (col. 5 lines 4-29).

In referring to claim 25 and 26, Austin shows:

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- Plurality of rendering servers (VS1, VS2) operable to render a render job (composite job ticket) having an associated job profile (job type,  $d_j$ ) and a plurality frames (compound segments) fig. 13, col. 17).
- Resource database (db) comprising resource information regarding the plurality of virtual services (col. 17 lines 62- col. 18 line 13).
- A schedule server (distribution management and document manager) coupled to the virtual services via communication medium (fig. 13) operable to distribute a first frame to a first virtual service and second frame to a second virtual service based on job type and resource information found in the table (col. 17 lines 6-26).

In referring to claim 27, Austin also shows the transferring of jobs to a remote rendering system controlled by a remote document manager (fig. 15), responsible for distributing first and second frames to remote first and second virtual services, similar to the illustration of the document manager shown in fig. 13. The remote document manager is coupled to an identical structure to that show in fig. 13. The system offers remote document processing relative to the document processing system shown in fig. 13 (see col. 17 lines 56-61).

In referring to claim 28, Austin shows file comprising of rendering or image enhancement information (col. 9 line 14-32).

*Conclusion*


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anita Choudhary whose telephone number is (703) 305-5268.

The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (703) 305-4792. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AC  
April 21, 2004

  
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